

PROVISIONAL METHOD 4 BMP CALCULATOR INSTRUCTIONS (DRAFT)

The Department of Water Resources (DWR) has developed these instructions to guide agencies in calculating their potential water savings based on a Best Management Practices (BMP) calculator. The calculator estimates savings that would likely result from retrofit of inefficient indoor residential fixtures, such as toilets, washers, and showers, from increased efficiency in the CII sector, and from conversion of unmetered connections to metered connections.

The calculator uses natural turnover and historical retrofit data to estimate the saturation level of efficient indoor residential fixtures at the midpoint of a supplier's baseline. The calculator then estimates how much water would be saved if the efficient fixture saturation rate was increased to certain specified saturation goals (for example, the calculator assumes that 85% of all residential toilets will be of the high-efficiency variety by 2020). Suppliers that have high percentages of efficient fixtures will have to install fewer efficient fixtures to reach the saturation goal and will have smaller savings requirement.

Metering savings are based on California Urban Conservation Council's (CUWCC) estimate of savings in its Memorandum of Understanding (MOU). The metering BMP is 1.3 which estimates that 20% of deliveries to unmetered connections can be saved through metering.

CII savings are set to 10% of baseline CII, a standard that comes from Target Method 2, specified in SBx7-7.

Agencies can find information required to populate the calculator's data input fields from their BMP and DMM reports, their UWMP, PWSS records, the California Department of Finance (DOF), and the Bureau of the Census.

All user inputs are highlighted in **salmon**, model assumptions in **green**, and model calculations in **blue**.

GPCD Target

Water Supplier: Enter name.

Hydrologic Region: Select appropriate Hydrologic Region from pull down tab.

Mid Point of Base Period: Enter midpoint of base period reported in the 2010 UWMP.

Baseline Population: Enter total service area population. This estimate should be prepared in accordance with the following guidance document:

- *Methodologies for calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 2*

Baseline Gross Water Use (AF): Enter sum of metered and unmetered water deliveries, excluding recycled water. This estimate should be prepared in accordance with Methodology 1 in the Technical Methodologies guidance document cited above.

BMP 1.3 Metering

Unmetered Connections: Enter number of unmetered connections at midpoint of the baseline period. These data should be consistent with what has been previously reported to either the CUWCC or the Department of Water Resources (DWR).

Deliveries to Unmetered Connections (AF): Enter water deliveries to unmetered connections, excluding recycled water. These data should be consistent with what has been previously reported to either the CUWCC or DWR.

BMP 4 CII

Baseline CII Use (AF): Enter the baseline use of metered and unmetered Commercial, Industrial, and Institutional Accounts. This estimate should be prepared in accordance with Methodology 7 in the Technical Methodologies guidance document cited earlier.

Single Family Toilets

SF Dwelling Units: Enter number of single family dwelling units in the service area during the baseline midpoint year. If the supplier's service area coincides with boundaries of one or more incorporated cities, dwelling unit data may be obtained from DOF's website. Otherwise, suppliers are recommended to generate these estimates using Census Block level information aggregated up to the supplier's distribution area. The broad outline of how to use Census Block level information to obtain single-family and multi-family population is described in Appendix A of the Technical Methodologies document cited earlier. The same methodology can be expanded to obtain information about dwelling units.

Persons per Household: Enter number of persons per single-family household, that is, single-family population divided by single-family dwelling units.

Toilets per Household: Enter toilets per single family household. These data should be consistent with what has been reported to the CUWCC. Non-council members should document the source for these estimates.

Model Estimated Toilet Distribution

SF Dwelling Units: Enter the average single-family dwelling unit growth rate between 1991 and 2005. This growth rate is used to interpolate dwelling units during the intervening years. These data should be consistent with what has been reported to CUWCC or DWR.

ULFT Program Toilets: These are ultra low flow toilets, 1.6 gal/flush. Enter number of single-family ULFT Rebates / Installations by year sponsored by the supplier. These data should be consistent with what has been reported to CUWCC or DWR.

HET Program Toilets: These are high efficiency toilets, 1.28 gal/flush or less. Enter number of single-family HET Rebates / Installations by year sponsored by the supplier. These data should be consistent with what has been reported to CUWCC or DWR.

Multi Family Toilets

Follow an analogous approach as for single-family toilets.

Residential Washers

Washer Program 8.5-9.5 WF Incentives, Washer Program 6.0-8.5 WF Incentives Washer, Program < 6.0

WF Incentives: Enter *number* of washers retrofitted by water factor type and year through supplier's financial incentives (do not use points assigned by CUWCC to different types of washers instead of number of washers retrofitted). These data should be consistent with what has been reported to CUWCC or DWR.

Side calculation tables: This table compares how well the supplier's total population estimate compares to a bottoms-up estimate derived by summing the product of dwelling units and persons per household across the single- and multi-family sectors, as well as population reported to be residing in group quarters. The bottoms-up population estimate should be within +/-5% of the total service area population.

Residential Showers

Showerhead Program Distributed (column Z): Enter the number of showerheads distributed per year. These data should be consistent with what has been reported to the CUWCC or DWR.